

Ralf Takors

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91
papers

2,302
citations

24
h-index

46
g-index

98
ext. papers

2,845
ext. citations

5
avg, IF

5.28
L-index

#	Paper	IF	Citations
91	Simultaneous determination of multiple intracellular metabolites in glycolysis, pentose phosphate pathway and tricarboxylic acid cycle by liquid chromatography-mass spectrometry. <i>Journal of Chromatography A</i> , 2007 , 1147, 153-64	4.5	386
90	Quantification of intracellular metabolites in Escherichia coli K12 using liquid chromatographic-electrospray ionization tandem mass spectrometric techniques. <i>Analytical Biochemistry</i> , 2001 , 295, 129-37	3.1	198
89	Metabolomics: quantification of intracellular metabolite dynamics. <i>New Biotechnology</i> , 2002 , 19, 5-15		175
88	Genome reduction boosts heterologous gene expression in Pseudomonas putida. <i>Microbial Cell Factories</i> , 2015 , 14, 23	6.4	108
87	Using gas mixtures of CO, CO and H as microbial substrates: the do's and don'ts of successful technology transfer from laboratory to production scale. <i>Microbial Biotechnology</i> , 2018 , 11, 606-625	6.3	83
86	Platform engineering of Corynebacterium glutamicum with reduced pyruvate dehydrogenase complex activity for improved production of L-lysine, L-valine, and 2-ketoisovalerate. <i>Applied and Environmental Microbiology</i> , 2013 , 79, 5566-75	4.8	80
85	Process strategies to enhance pyruvate production with recombinant Escherichia coli: from repetitive fed-batch to in situ product recovery with fully integrated electro dialysis. <i>Biotechnology and Bioengineering</i> , 2004 , 85, 638-46	4.9	75
84	High Substrate Uptake Rates Empower Vibrio natriegens as Production Host for Industrial Biotechnology. <i>Applied and Environmental Microbiology</i> , 2017 , 83,	4.8	59
83	Alkaline conditions in hydrophilic interaction liquid chromatography for intracellular metabolite quantification using tandem mass spectrometry. <i>Analytical Biochemistry</i> , 2015 , 475, 4-13	3.1	57
82	Grand Research Challenges for Sustainable Industrial Biotechnology. <i>Trends in Biotechnology</i> , 2019 , 37, 1042-1050	15.1	53
81	Simplified absolute metabolite quantification by gas chromatography-isotope dilution mass spectrometry on the basis of commercially available source material. <i>Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences</i> , 2011 , 879, 3859-70	3.2	50
80	Engineering E. coli for large-scale production - Strategies considering ATP expenses and transcriptional responses. <i>Metabolic Engineering</i> , 2016 , 38, 73-85	9.7	50
79	CO ₂ /HCO ₃ ⁻ perturbations of simulated large scale gradients in a scale-down device cause fast transcriptional responses in Corynebacterium glutamicum. <i>Applied Microbiology and Biotechnology</i> , 2014 , 98, 8563-72	5.7	42
78	Monitoring and modeling of the reaction dynamics in the valine/leucine synthesis pathway in Corynebacterium glutamicum. <i>Biotechnology Progress</i> , 2006 , 22, 1071-83	2.8	40
77	Bioprocess scale-up/down as integrative enabling technology: from fluid mechanics to systems biology and beyond. <i>Microbial Biotechnology</i> , 2017 , 10, 1267-1274	6.3	39
76	Transcriptional response of Escherichia coli to ammonia and glucose fluctuations. <i>Microbial Biotechnology</i> , 2017 , 10, 858-872	6.3	34
75	Escherichia coli HGT: Engineered for high glucose throughput even under slowly growing or resting conditions. <i>Metabolic Engineering</i> , 2017 , 40, 93-103	9.7	30

74	Metabolic engineering to guide evolution - Creating a novel mode for L-valine production with <i>Corynebacterium glutamicum</i> . <i>Metabolic Engineering</i> , 2018 , 47, 31-41	9.7	30
73	CO ₂ - Intrinsic Product, Essential Substrate, and Regulatory Trigger of Microbial and Mammalian Production Processes. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015 , 3, 108	5.8	29
72	Dynamics of benzoate metabolism in KT2440. <i>Metabolic Engineering Communications</i> , 2016 , 3, 97-110	6.5	29
71	Compartment-specific metabolomics for CHO reveals that ATP pools in mitochondria are much lower than in cytosol. <i>Biotechnology Journal</i> , 2015 , 10, 1639-50	5.6	27
70	Impact of different CO ₂ /HCO ₃ ⁻ levels on metabolism and regulation in <i>Corynebacterium glutamicum</i> . <i>Journal of Biotechnology</i> , 2013 , 168, 331-40	3.7	25
69	Lagrangian Trajectories to Predict the Formation of Population Heterogeneity in Large-Scale Bioreactors. <i>Bioengineering</i> , 2017 , 4,	5.3	25
68	Harnessing novel chromosomal integration loci to utilize an organosolv-derived hemicellulose fraction for isobutanol production with engineered <i>Corynebacterium glutamicum</i> . <i>Microbial Biotechnology</i> , 2018 , 11, 257-263	6.3	25
67	HILIC-Enabled C Metabolomics Strategies: Comparing Quantitative Precision and Spectral Accuracy of QTOF High- and QQQ Low-Resolution Mass Spectrometry. <i>Metabolites</i> , 2019 , 9,	5.6	22
66	<i>Pseudomonas putida</i> KT2440 is naturally endowed to withstand industrial-scale stress conditions. <i>Microbial Biotechnology</i> , 2020 , 13, 1145-1161	6.3	22
65	Improving the carbon balance of fermentations by total carbon analyses. <i>Biochemical Engineering Journal</i> , 2014 , 90, 162-169	4.2	22
64	Applying systems biology tools to study n-butanol degradation in <i>Pseudomonas putida</i> KT2440. <i>Engineering in Life Sciences</i> , 2015 , 15, 760-771	3.4	20
63	Valorization of pyrolysis water: a biorefinery side stream, for 1,2-propanediol production with engineered. <i>Biotechnology for Biofuels</i> , 2017 , 10, 277	7.8	20
62	The identification of enzyme targets for the optimization of a valine producing <i>Corynebacterium glutamicum</i> strain using a kinetic model. <i>Biotechnology Progress</i> , 2009 , 25, 754-62	2.8	20
61	Experimentally Validated Model Enables Debottlenecking of in Vitro Protein Synthesis and Identifies a Control Shift under in Vivo Conditions. <i>ACS Synthetic Biology</i> , 2017 , 6, 1913-1921	5.7	19
60	The impact of CO gradients on <i>C. ljungdahlii</i> in a 125 m ³ bubble column: Mass transfer, circulation time and lifeline analysis. <i>Chemical Engineering Science</i> , 2019 , 207, 410-423	4.4	19
59	Phosphate limited fed-batch processes: impact on carbon usage and energy metabolism in <i>Escherichia coli</i> . <i>Journal of Biotechnology</i> , 2014 , 190, 96-104	3.7	19
58	Hyperosmotic stimulus study discloses benefits in ATP supply and reveals miRNA/mRNA targets to improve recombinant protein production of CHO cells. <i>Biotechnology Journal</i> , 2016 , 11, 1037-47	5.6	19
57	Zero-growth bioprocesses: A challenge for microbial production strains and bioprocess engineering. <i>Engineering in Life Sciences</i> , 2017 , 17, 27-35	3.4	18

56	Repetitive Short-Term Stimuli Imposed in Poor Mixing Zones Induce Long-Term Adaptation of Cultures in Large-Scale Bioreactors: Experimental Evidence and Mathematical Model. <i>Frontiers in Microbiology</i> , 2017 , 8, 1195	5.7	18
55	Changes in intracellular ATP-content of CHO cells as response to hyperosmolality. <i>Biotechnology Progress</i> , 2015 , 31, 1212-6	2.8	18
54	Predictability of k _L in stirred tank reactors under multiple operating conditions using an Euler-Lagrange approach. <i>Engineering in Life Sciences</i> , 2016 , 16, 633-642	3.4	18
53	A guide to gene regulatory network inference for obtaining predictive solutions: Underlying assumptions and fundamental biological and data constraints. <i>BioSystems</i> , 2018 , 174, 37-48	1.9	17
52	From nutritional wealth to autophagy: In vivo metabolic dynamics in the cytosol, mitochondrion and shuttles of IgG producing CHO cells. <i>Metabolic Engineering</i> , 2019 , 54, 145-159	9.7	15
51	Switching between nitrogen and glucose limitation: Unraveling transcriptional dynamics in Escherichia coli. <i>Journal of Biotechnology</i> , 2017 , 258, 2-12	3.7	14
50	Production of 1-Octanol from n-Octane by Pseudomonas putida KT2440. <i>Chemie-Ingenieur-Technik</i> , 2013 , 85, 841-848	0.8	14
49	Modular systems metabolic engineering enables balancing of relevant pathways for l-histidine production with. <i>Biotechnology for Biofuels</i> , 2019 , 12, 65	7.8	13
48	Continuous Adaptive Evolution of a Fast-Growing Strain Independent of Protocatechuate. <i>Frontiers in Microbiology</i> , 2019 , 10, 1648	5.7	13
47	Subpopulation-proteomics reveal growth rate, but not cell cycling, as a major impact on protein composition in Pseudomonas putida KT2440. <i>AMB Express</i> , 2014 , 4, 71	4.1	13
46	Environmental stress speeds up DNA replication in Pseudomonas putida in chemostat cultivations. <i>Biotechnology Journal</i> , 2016 , 11, 155-63	5.6	13
45	Electron availability in CO ₂ , CO and H ₂ mixtures constrains flux distribution, energy management and product formation in Clostridium ljungdahlii. <i>Microbial Biotechnology</i> , 2020 , 13, 1831-1846	6.3	12
44	Perfusion cultures require optimum respiratory ATP supply to maximize cell-specific and volumetric productivities. <i>Biotechnology and Bioengineering</i> , 2019 , 116, 951-960	4.9	11
43	Deciphering the Adaptation of in Transition from Aerobiosis via Microaerobiosis to Anaerobiosis. <i>Genes</i> , 2018 , 9,	4.2	11
42	In Silico Prediction of Large-Scale Microbial Production Performance: Constraints for Getting Proper Data-Driven Models. <i>Computational and Structural Biotechnology Journal</i> , 2018 , 16, 246-256	6.8	10
41	Exploiting Hydrogenophaga pseudoflava for aerobic syngas-based production of chemicals. <i>Metabolic Engineering</i> , 2019 , 55, 220-230	9.7	10
40	Physiological Response of to Increasingly Nutrient-Rich Growth Conditions. <i>Frontiers in Microbiology</i> , 2018 , 9, 2058	5.7	10
39	Simulated oxygen and glucose gradients as a prerequisite for predicting industrial scale performance a priori. <i>Biotechnology and Bioengineering</i> , 2020 , 117, 2760-2770	4.9	9

38	Engineering KT2440 for the production of isobutanol. <i>Engineering in Life Sciences</i> , 2020 , 20, 148-159	3.4	9
37	Protein production in Escherichia coli is guided by the trade-off between intracellular substrate availability and energy cost. <i>Microbial Cell Factories</i> , 2019 , 18, 8	6.4	8
36	The Less the Better: How Suppressed Base Addition Boosts Production of Monoclonal Antibodies With Chinese Hamster Ovary Cells. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019 , 7, 76	5.8	7
35	Dynamic modeling reveals a three-step response of Saccharomyces cerevisiae to high CO2 levels accompanied by increasing ATP demands. <i>FEMS Yeast Research</i> , 2017 , 17,	3.1	5
34	Identifying and Engineering Bottlenecks of Autotrophic Isobutanol Formation in Recombinant by Systemic Analysis. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 647853	5.8	5
33	S-adenosylmethionine and methylthioadenosine boost cellular productivities of antibody forming Chinese hamster ovary cells. <i>Biotechnology and Bioengineering</i> , 2020 , 117, 3239-3247	4.9	4
32	CO/HCO Accelerates Iron Reduction through Phenolic Compounds. <i>MBio</i> , 2020 , 11,	7.8	4
31	Tracking dipeptides at work-uptake and intracellular fate in CHO culture. <i>AMB Express</i> , 2016 , 6, 48	4.1	4
30	Quantitative Profiling of Endogenous Metabolites Using Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry (HILIC-MS/MS). <i>Methods in Molecular Biology</i> , 2019 , 1859, 185-207	1.4	4
29	Prediction of novel non-coding RNAs relevant for the growth of in a bioreactor. <i>Microbiology (United Kingdom)</i> , 2020 , 166, 149-156	2.9	3
28	Biochemical engineering provides mindset, tools and solutions for the driving questions of a sustainable future. <i>Engineering in Life Sciences</i> , 2020 , 20, 5-6	3.4	3
27	Comparison of l-tyrosine containing dipeptides reveals maximum ATP availability for l-prolyl-l-tyrosine in CHO cells. <i>Engineering in Life Sciences</i> , 2020 , 20, 384-394	3.4	3
26	Micro-aerobic production of isobutanol with engineered. <i>Engineering in Life Sciences</i> , 2021 , 21, 475-488	3.4	3
25	Identifying the Growth Modulon of. <i>Frontiers in Microbiology</i> , 2019 , 10, 974	5.7	2
24	Monitoring intracellular protein degradation in antibody-producing Chinese hamster ovary cells. <i>Engineering in Life Sciences</i> , 2015 , 15, 499-508	3.4	2
23	Revisiting the Growth Modulon of Under Glucose Limited Chemostat Conditions. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 584614	5.8	2
22	Synergistically applying 1-D modeling and CFD for designing industrial scale bubble column syngas bioreactors. <i>Engineering in Life Sciences</i> , 2020 , 20, 239-251	3.4	2
21	CRISPRi enables fast growth followed by stable aerobic pyruvate formation in without auxotrophy.. <i>Engineering in Life Sciences</i> , 2022 , 22, 70-84	3.4	2

20	Wachstumskinetik 2018 , 45-70		2
19	Modeling Cell-Free Protein Synthesis Systems-Approaches and Applications. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 584178	5.8	2
18	Streamlining the Analysis of Dynamic C-Labeling Patterns for the Metabolic Engineering of as l-Histidine Production Host. <i>Metabolites</i> , 2020 , 10,	5.6	2
17	Methylthioadenosine (MTA) boosts cell-specific productivities of Chinese hamster ovary cultures: dosage effects on proliferation, cell cycle and gene expression. <i>FEBS Open Bio</i> , 2020 , 10, 2791-2804	2.7	2
16	Data-driven in silico prediction of regulation heterogeneity and ATP demands of Escherichia coli in large-scale bioreactors. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 265-278	4.9	2
15	Balancing glucose and oxygen uptake rates to enable high amorpha-4,11-diene production in Escherichia coli via the methylerythritol phosphate pathway. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 1317-1329	4.9	2
14	Comprehensive Analysis of Anaplerotic Deletion Mutants Under Defined d-Glucose Conditions. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 602936	5.8	2
13	Predicting By-Product Gradients of Baker's Yeast Production at Industrial Scale: A Practical Simulation Approach. <i>Processes</i> , 2020 , 8, 1554	2.9	1
12	Towards valorization of pectin-rich agro-industrial residues: Engineering of Saccharomyces cerevisiae for co-fermentation of d-galacturonic acid and glycerol. <i>Metabolic Engineering</i> , 2021 , 69, 1-14	9.7	1
11	Reduced and Minimal Cell Factories in Bioprocesses: Towards a Streamlined Chassis 2020 , 1-44		1
10	Host Organisms: Mammalian Cells 2016 , 643-671		1
9	Pseudomonas putida KT2440 endures temporary oxygen limitations. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 4735-4750	4.9	1
8	Compartment-specific C metabolic flux analysis reveals boosted NADPH availability coinciding with increased cell-specific productivity for IgG1 producing CHO cells after MTA treatment.. <i>Engineering in Life Sciences</i> , 2021 , 21, 832-847	3.4	0
7	Euler-Lagrangian Simulations: A Proper Tool for Predicting Cellular Performance in Industrial Scale Bioreactors. <i>Advances in Biochemical Engineering/Biotechnology</i> , 2021 , 177, 229-254	1.7	0
6	Engineering of a robust Escherichia coli chassis and exploitation for large-scale production processes. <i>Metabolic Engineering</i> , 2021 , 67, 75-87	9.7	0
5	Compartment-specific metabolome labeling enables the identification of subcellular fluxes that may serve as promising metabolic engineering targets in CHO cells. <i>Bioprocess and Biosystems Engineering</i> , 2021 , 44, 2567-2578	3.7	0
4	FAIR research data management as community approach in bioengineering. <i>Engineering in Life Sciences</i> ,	3.4	0
3	Systembiologie in der Bioverfahrenstechnik 2018 , 545-569		

- 2 Transcriptional profiling of the stringent response mutant strain E. coli SR reveals enhanced robustness to large-scale conditions. *Microbial Biotechnology*, **2021**, 14, 993-1010 6.3
- 1 A transhydrogenase-like mechanism in CHO cells comprising concerted cytosolic reaction and mitochondrial shuttling activities. *Biochemical Engineering Journal*, **2021**, 170, 107986 4.2